ABSTRACT

TITLE: Predictive value of Pulmonary Function Tests for Respiratory Infections in Cervical Cord Injury

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Objectives: To determine whether pulmonary function tests can predict respiratory infection in persons with cervical spinal cord injury of less than one year duration. **Methods:** Pulmonary function tests and bedside measures of pulmonary function were assessed for all patients. Patients were followed up during the course of hospital stay and at 3 months after discharge to determine the incidence of respiratory infection. The differences in pulmonary function in patients who developed and those who did not develop respiratory infection were assessed and receiver operated characteristic curves were plotted to determine the predictive value of each test. **Results:** The Percentage predicted values of Forced vital capacity (FVC%) and Forced expiratory volume in 1 second (FEV1%) were the best predictors of respiratory infection. Using cut-offs of 44.7% for Forced vital capacity (FVC%), and 43.7% for Forced expiratory volume in 1 second (FEV1%), the sensitivity of these tests for prediction of

respiratory infection was 100%, with a specificity of > 85%. Among the bedside measures of pulmonary function, the Index of Pulmonary dysfunction correlated well with FVC% and FEV1% with slightly reduced sensitivity.

Key words: cervical spinal cord injury, complications, respiratory infections, pulmonary function test, bedside test, Index of pulmonary Dysfunction, rehabilitation, sensitivity and specificity.